

STATISTICS ON MILK.

How the Intelligent Dairyman Should Improve His Stock.

MANUFACTURE OF GRINDSTONES.

Automatic Locking Envelope to Stop the Habit of Licking.

INDIA RUBBER TIRES FOR BICYCLES

Written for the DISPATCH.

The need for better cows for the dairy is coming to be very generally appreciated. Statistics collected in Iowa show that the average cow in that State gives but 3,000 pounds of milk annually, while good ones yield from 5,000 to 9,000 pounds. How unequal is the supply of butter is shown by the fact that in the State of Vermont the average yield of butter per cow is only about 130 pounds per annum, while there are 30 dairies in the State that average over 300 pounds per cow. Some most important facts were recently brought out by a series of experiments with 12 cows, among which were Jersey, Ayrshire, Devon, Durham, Dutch and native cow, under the auspices of the Department of Agriculture. The most profitable cow was bought for \$60, fed 284 days, and then sold for \$28, making her actual cost \$32, and the feed cost \$135.05, so that the total cash outlay was \$167.05. The milk brought \$293.35 at the creamery, and the manure was estimated to be worth \$56.53, making the total value received for feed consumed, \$590.30. Subtracting the cash outlay of \$167.05 from this, there remains \$423.25 as net return for feed consumed. Deducting the estimated value of the manure, the remainder, "return in excess of estimated value of the manure," is \$366.32. In the average for the 12 cows, the net return was \$30.43, and the return in excess of the estimated value of the manure, only \$15.13. With the least profitable cow, the cash outlay for feed cost, exceeded the value of the milk and manure by \$3.97; in other words, the net return for feed consumed was \$3.97 less than nothing. Subtracting the value of the manure, the total loss was \$34.25; that is to say, allowing for the value of the manure, the results with the 12 cows varied from a gain of \$366.32 to a loss of \$34.25, or, if the value of the manure be left out of account, from a gain of \$56.53 to a loss of \$34.25.

It was found that the profit or loss did not depend upon either the length of the feeding period. The most profitable cow and the least profitable but one were both of the same breed. Of the two most profitable cows, one was fed for 284 days and the other for only 278 days. Two things are brought out clearly by these experiments. One is that in certain localities the value of the manure goes far to decide the profit in feeding dairy cattle. Another is that cows which would ordinarily pass for good ones may differ widely in product. To the practical dairyman, however, they teach the difference between cows which are profitable and those which are not, and the importance of selecting the best cows and getting rid of the poor ones; in other words, of being thoroughly cognizant of the issues upon which the success or failure of his business depends.

Increasing Use of Rubber Tires.

The application of rubber to wheel tires has proved a great boon to bicyclists, and the increase in this branch of industry is remarkable. There are 100,000 bicycles made every year in this country, and 40,000 more are imported. As all these have tires of the best rubber, it can be seen that a good percentage of the world's supply is absorbed in this way. Each tire weighs on an average between three and four pounds, and this together with renewals involves a yearly consumption of not far from 1,000,000 pounds. The solid tire was first used, but the cushion and the pneumatic are now the popular forms. Each of these, however, is being further modified and improved, and the comfort of bicycle riding is being daily increased. The cushion tire is not liable to puncture, and takes the jar well, but its weak point at present is its liability to crack at the sides in the interior. The pneumatic consists of a rubber tube jacketed in a strong canvas sack, which prevents its being burst from overinflation and other accidents. The whole is covered with a larger casing tube of rubber. The canvas sack is cemented to the outer rubber casing, and the interior is inflated by an air valve. This form of tire, which is not yet perfected, has the advantage of being easily repaired by the rider in a few minutes by the roadside. The repairing outfit consists of a hidden pressure tube filled with quick-drying solution, rubber for patches, and a supply of canvas. These adaptations of rubber enable the rider to travel long distances, day after day, with but little effect from the concussion which once affected so materially the health and comfort of the bicyclist.

To Imitate Mahogany.

In the manufacture of furniture it is often found that excellent results both in economy and effect are gained by the ability to imitate valuable hardwoods. The French artisan is especially skilled in this art, and will produce a surface so like the wood imitated in texture, density of hue and polish that many expert judges will often mistake the imitation for the natural wood. The appearance of mahogany is given by the following process: The surface of the wood having been made perfectly smooth, diluted nitrous acid is rubbed in. To a filtered mixture of one and a half ounces of dragon's blood, dissolved in a pint of spirits of wine, is added one-third that quantity of carbonate of soda. This gives a very thin liquid, which is brushed with a soft brush over the wood. The process is repeated, and shortly the wood assumes the external appearance of mahogany. If the composition has been properly made the surface will resemble an artificial mirror, and should this brilliancy at any time be impaired, it can be restored by rubbing the surface with a little cold-drawn linseed oil.

Smokeless Fuel.

That the importance of a smokeless fuel to the public in general and to the manufacturer in particular is recognized is shown by the fact that new methods of producing it are constantly being devised. A product of this kind has been tested in England, with promising results. The fuel consists of dust or waste coal reduced to a fine powder, and then incorporated with a small proportion of pitch and some other mineral substances to the extent of from 7 to 10 per cent, according to the nature of the coal used. It is then, while in a plastic condition, molded in presses, where it is submitted to a pressure of two tons to the square inch, and assumes the form of briquettes about 8 inches long by 4 inches wide and 4 inches thick. It is stated that the mineral ingredients thus added produce during combustion a gas which not only consumes the smoke that emanates from the coal, but also all noxious fumes. The sulphur is said to be rendered innocuous, and the heat engendered to be greater than that produced by ordinary coal alone.

Feeding Turbines With Sawdust.

The consumption of sawdust and shavings in sawmills effects a great economy in fuel. While sawdust is easily handled, the larger chips from planers are not so readily disposed of, and are often so bulky that if manipulated in the ordinary way much labor is entailed. An ingenious mode of overcoming this difficulty has been introduced, consisting of a system of ventilation and boiler firing that removes all the chips and dust from the machines, transports them to a special building and thence carries a supply to the boilers. The whole sys-

tem is entirely automatic and is under simple and perfect control.

Danger in Licking Envelopes.

The public is frequently warned by the medical profession of the danger which lurks in the practice of darning the gum on envelopes with the tongue, and notwithstanding the many cases of virulent and serious diseases, especially of the syphilitic type, which have been traced to such an origin, the practice is still almost universal. Among attempts which have been made to provide a means of escaping the necessity of licking the envelope is an automatic locking envelope, which has just been patented. On the flap of the envelope are two projecting flanges and all that is necessary to close the envelope is to fold these flanges by clearly denoted lines, and insert the flap thus narrowed in a slot, whereupon the folded flanges automatically lock themselves and the envelope cannot be opened without being torn. The operation sounds much more complicated than it really is, for one of the new envelopes can be closed as readily as the better known gummed envelope.

Still another remedy is a patent machine which imitates the open flap of envelopes and similar articles drawn through it. This consists of a reservoir with convex undersurface, which is attached to the vertical member of a frame. When the gummed flap of an envelope is passed under a sponge which extends slightly downward within an opening in the base of the frame, a spring arm is slightly lifted and raises a plug, allowing water to enter the reservoir and permitting its flow through the sponge, which is thus kept in a thoroughly moist condition. The immediate return of the plug to its position by the spring arm, after the envelope has been passed through, prevents further flow of the moistening fluid.

To Clean Dull Gold.

A correspondent who has found difficulty in restoring the color of dull gold will find advisable the use of a solution consisting of 50 parts of distilled water in which 80 grains calcium hypochlorite, 80 grains sodium bicarbonate and 20 grains table salt are dissolved. This fluid must be kept in well corked bottles. Articles to be cleaned are placed in a basin and covered with the liquor. After a while they should be taken out, washed and rinsed in alcohol and dried in sawdust. They will then look like new.

Vulcanite Grindstones.

The manufacture of artificial grindstones now constitutes a very important industry in this country. The materials used in this manufacture are pulverized quartz, powdered flint, powdered emery or corundum, and rubber dissolved by a suitable solvent. These materials, after being carefully mixed together, form a substance that is exceedingly hard, and that will, when used, wear away the surface of the work by many years any natural stone known.

During the process of mixing and kneading there is a constant escape of tar fumes,

very often rendering the covering of the mixers with a sheet-iron hood necessary. The compound is afterward calendered into sheets of one-half to three inches thick, shaped up and carefully vulcanized, and the process is completed by the wheels being trued up with tools made especially for the purpose. These wheels are used for the finest sort of grinding and polishing purposes.

Quilter for Sewing Machines.

A very useful addition to the sewing machine has appeared in the shape of a quilting frame. This device can be easily adjusted to hold a quilt in convenient position for being worked on, and so that it can be readily adapted to the feed of any sewing machine. The frame supporting the quilt may be brought in an instant into any desired position, the suspended frame moving freely, and the device permitting of such arrangement in connection with a sewing machine that the feed of the machine will draw the quilt and frame through it. The device can be adapted to all sizes of machines and for the quilting of any desired pattern.

Protect Your Health.

Cold and moisture combined have a torpor effect upon the bodily organs, and the digestive and secretory processes are apt to be more tardily performed in winter than in the fall. The same is true, also, of the excretory functions. The bowels are often sluggish, and the pores of the skin throw off but little waste matter at this season. The system, therefore, requires opening up a little, allowing purifying and regulating, and the safest, surest and most thorough tonic and alternative that can be used for these purposes is Hostetter's Stomach Bitters. Persons who wish to escape the rheumatic twinges, the dyspeptic agonies, the painful disturbances of the bowels, the bilious attacks and the nervous visitations so common at this time of the year, will do well to reinforce their systems with this renowned vegetable stomachic and invigorant. It improves the appetite, strengthens the stomach, cheers the spirits and renews the whole physique.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

Palmetto Awning—At Mammoth & Son's, 539 Penn. avenue.

New Dress Novelties.

Large and select stock of English and French plaids, Arlington suitings, Henriettas, serges and fancy dress novelties at extraordinary low prices, at H. J. Lynch's, 438-440 Market street. WFSU

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

"Hello, 1186!"

A Harvest of Patents.

Those inventors who apply "early and often" reap the harvest, and among those who follow this maxim are found the names of some well-known Pennsylvanians: A. E. Dain, Pittsburgh, bottle stopper; L. S. Flatau, Pittsburgh, whiffletree; G. L. Go-grine, Allegheny, molding machine; P. Lange, Pittsburgh, wall socket for incandescent electric lamps; James Morgan, Pittsburgh, feed table for rolling mills; George Westinghouse, Jr., Pittsburgh, electric locomotor; G. W. Blair, Pittsburgh, lamp chimney. Reported by Higdon & Higdon, patent attorneys, 127 Fourth avenue, Pittsburgh.

HONITON AWNINGS—At Mammoth & Son's, 539 Penn. avenue.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

HANOVER AWNINGS—At Mammoth & Son's, 539 Penn. avenue.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H. Kunkel & Bro.'s, 1347-1349 Penn. avenue. Our assortment large. Our prices will be a revelation to you.

At J. H